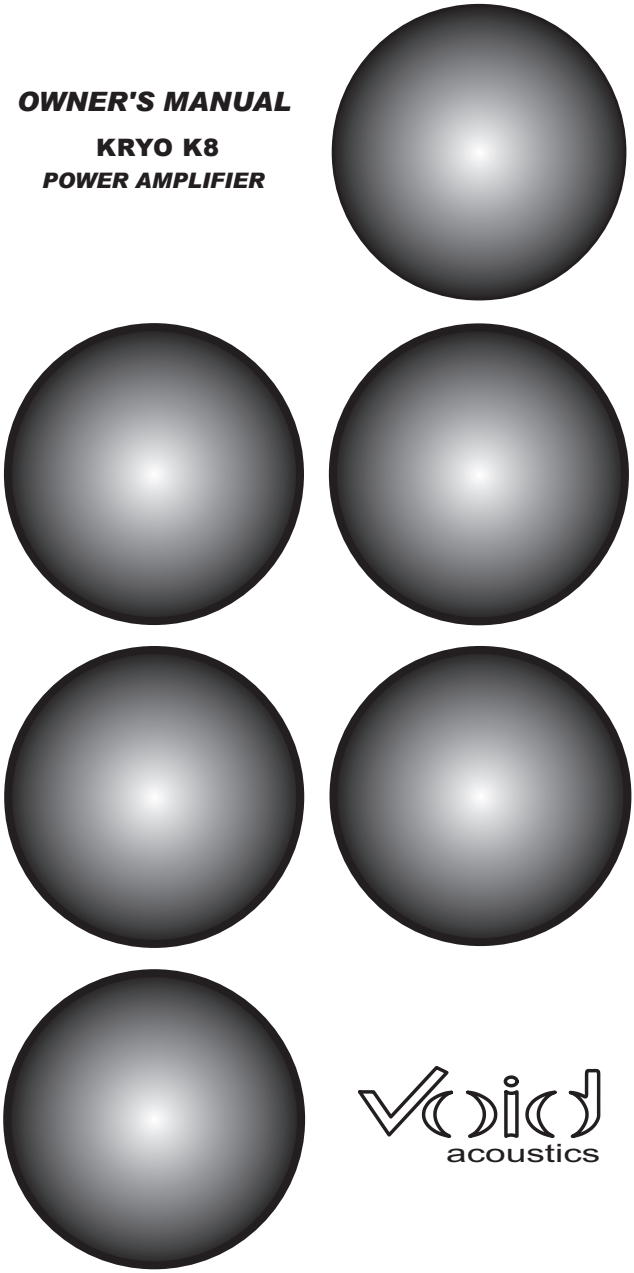
OWNER'S MANUAL

KRYO K8

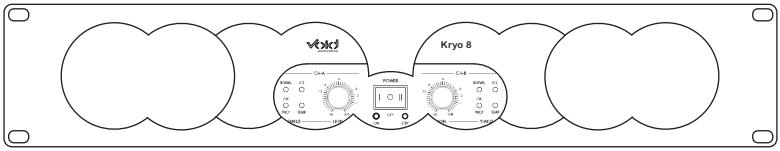
POWER AMPLIFIER



Void acoustics

OWNER'S MANUAL

KRYO K8
POWER AMPLIFIER



Technical and design specifications are
subject to change without notice

IMPORTANT
THE PRODUCT REQUIRES
CLASS 2 OUTPUT WIRING.

CAUTION

TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE TOP OR BOTTOM COVERS. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. DISCONNECT POWER CORD BEFORE REMOVING REAR PANEL COVER TO ACCESS GAIN SWITCH.

Shock Hazard - Do Not Enter
Choc Hasard - N*entrent
Schocke Hazard - Test Nicht Betrete
Urto Hazard - Do Non Entrano

WARNING

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE!

Magnetic Field

CAUTION: Do not locate sensitive high-gain equipment such as preamplifiers or tape decks directly above or below this unit. Because this amplifier has a high power density, it has a strong magnetic field which can induce hum into unshielded devices that are located nearby. This field is strongest just above and below the unit. If an equipment rack is used, we recommend locating the amplifier(s) at the bottom of the rack and the preamplifier or other sensitive equipment at the top.

The lightning bolt triangle is used alert the user to the risk of electric shock

The exclamation point triangle is used to alert the user to important operating and/or maintenance instructions.

Printed on recycled paper.

Features

- ▲ Rugged, touring grade chassis. E.I.A. Standard 19" (48.3cm) rack-mountable.
- ▲ Ultra compact and lightweight 2u design.
- ▲ Full PC control via optional Ethernet Module.
- ▲ Super high frequency switch mode power supply.
- ▲ Optional add on Modules extend operational capability.
- ▲ Intelligent Clip limiters prevent harmful signals from damaging loudspeakers.
- ▲ Parallel switch for channel linking.
- ▲ Dual and Bridge modes for optimal load matching.
- ▲ Balanced XLR inputs with Speakon and Binding Post outputs.
- ▲ Complete protection against shorted outputs, mismatched loads, overheating and DC input/output.
- ▲ Three year warranty and guarantee.

Precautions

Although your amplifier is protected from external faults, the following safety precautions are recommended:

1. **The power switch must always be in the "off" position before connecting the amplifier to the mains supply.**

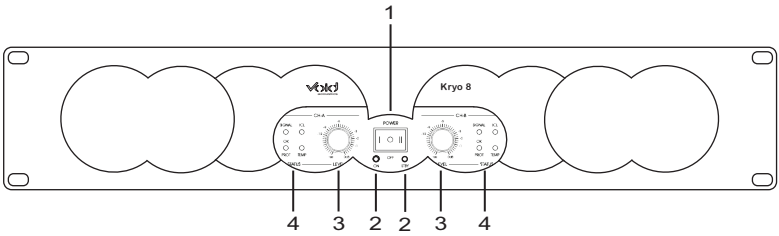
2. Do not change the position of the bridge mode switch unless the amplifier is switched off.

3. There are important differences between Dual, Parallel and Bridge modes. Please refer to page 8 for a detailed description of the different modes and there uses.

4. Switch off the amplifier or turn down the inputs before connecting to the in/out XLR's.

5. Do not short the ground lead of an output cable to the input signal ground. This will form a ground loop and may cause oscillations.

6. Do not operate the amplifier from AC mains in excess of 10% variation above or below the selected line voltage, and only at the specified line frequency.



Front Panel

1. **Power Switch**
   Used to turn the amplifier on or off.

2. **Power LED's**
   The blue LED lights when the amplifier is switched on.
   The amber LED lights when the amplifier is in stand-by mode and is remotely activated via Ethernet.

3. **Level Controls**
   Used to control CH A and B's output level.

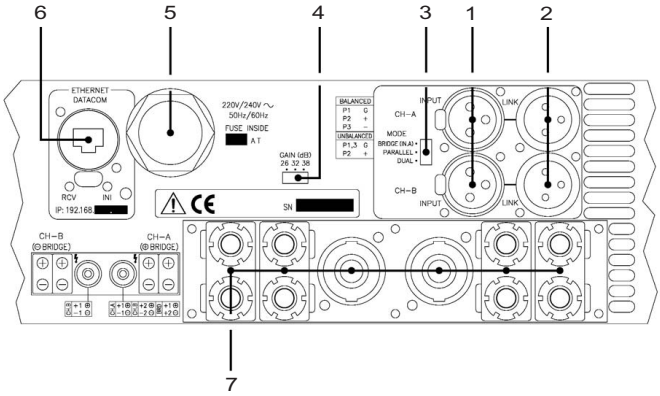
4. **Status LED's**

   SIGNAL
   When illuminated the signal LED's indicate an audio signal is present at the channel's input.

   ICL
   The ICL LED's indicate when the ICL limiter is active. The limiter circuit examines the audio output signal to prevent the amplifier from clipping.
   See page 6.

   TEMP
   Indicates when temperature protection is active.

   PROT
   The protect LED's light up when the amplifier goes into protect mode.
   See page 6.



Rear Panel

1.**Input XLR's**
The input impedance of the balanced XLR's is 20KΩ. Pin 2 is signal +

2.**Link Out XLR's**
Linked outputs from the inputs.

3.**Mode Switch**
Selects Dual, Parallel or Bridge Mode. See page 8 for more details.

4.**Gain Selection Switch**
The three position switches select either 26, 32 or 38dB of gain. The default setting is 32dB.

5.**Power Cable**
AC power in 230 VAC 50/60 Hz.

6.**Ethernet Connector**
Optional Ethernet module to allow remote control via a PC.

7.**Output Connectors**
In dual or parallel modes connect to pins +1 and -1 on out A or out B. Out A/B is also wired so that channel A outputs on pins +1, -1 and channel B outputs on pins +2, -2. In bridge mode use out A/B and connect to pins +1, +2. The binding posts accept both 4 mm plugs or bare wire.

Protection System

Each Kryo amplifier features a complete protection system that monitors the main amplifier parameters (load status, signal input, temperature, current etc)

The system controls the amount of power that the amplifier delivers under three basic circumstances.

1. The power on sequence, where the output is inhibited until the amplifiers circuits are ready to operate. This routine is repeated at every restart, not just when the power switch is activated.

2. When internal temperatures rise to the near thermal shutdown point due to unfavourable operating conditions. Here the system takes control, restricting current to maintain operational continuity at the precise power level at which the amplifier is capable of withstanding at the particular moment.

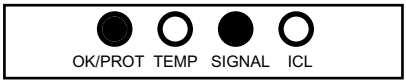
3. Excessive mains current consumption. This event only occurs either under laboratory conditions (long term sinusoidal signal testing with dummy loads) or, for example, in conditions of prolonged acoustic feedback. Here the protection system takes control to avoid any damage to the speakers and to prevent the mains breaker from tripping or the fuses blowing.

ICL Intelligent Clip Limiter

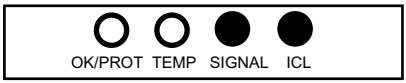
The Kryo series of amplifiers use an intelligent anti clip system that differs from conventional clip reduction systems. The system dynamically tracks the power rail values to provide instant current/voltage limiting, this eliminates any limiting of the signal dynamics. More like a valve amplifier, the ICL system maintains sonic transparency even when the amplifier has exceeded the threshold of clipping, providing very high dynamics at negligible distortion levels.

LED Status

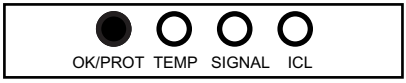
In the event of incorrect connection or a malfunction, the amplifier will activate one or more of its LED's to warn about the problem.



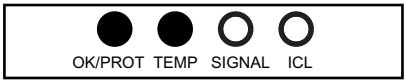
Correct function: OK/PROT lights Green.



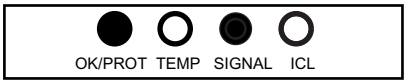
ICL: The Intelligent Clip Limiter is operating (see page 6).



No Signal: (OK/PROT Lights Green) No Input Signal is reaching the amplifier.



Overheating: The amplifier has reached the maximum operational temperature. Most common cause is: the normal air flow is blocked, accumulated dirt, dust or object leaning against the grill. Check and clean periodically.



PRO: Several causes can trigger this LED, refer to page 6 for more details.

System Connections

Dual Mode

In dual mode connect individual sources to inputs A and B and set the mode switch to dual. Channel A's input will output from out A, channel B's input will output from out B. Out A and out B use pins +1,-1 or you can connect to out A/B with 4 core cable, where pins +1,-1 are for channel A and pins +2,-2 are for channel B. This type of arrangement could be used for 2 way active speakers, where channel A would be bass and channel B would be HF. If 4 core speaker cable was used then the speaker would be connected from out A/B. Note, this arrangement would only work if the speakers were wired pins +1,-1 to the woofer and pins +2, -2 to the HF unit.

Parallel Mode

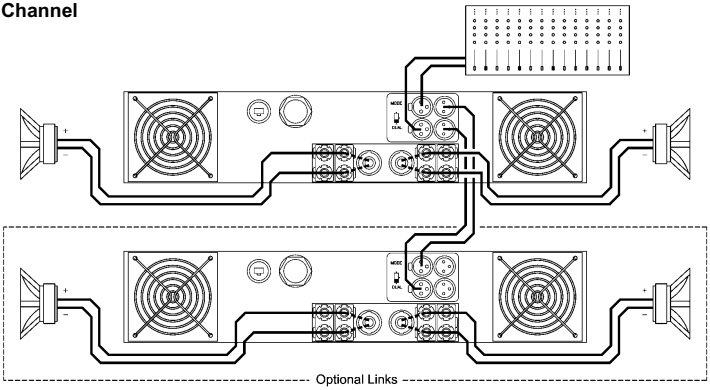
If the mode switch is set to parallel, then channels A and B will receive the same signal. This mode is useful if you only have 1 input source but want to feed both amplifier channels. Typical arrangements could be powering 2 speakers from a mono output, in which case you would connect the mono source to input A and set the mode switch to link. The same signal will now appear at both out A and Out B.

Note the parallel mode on Kryo amplifiers is not like the parallel mode on some amplifiers that allow you to drive into very low impedances. Parallel mode on Kryo series amplifiers makes both inputs receive the same signal.

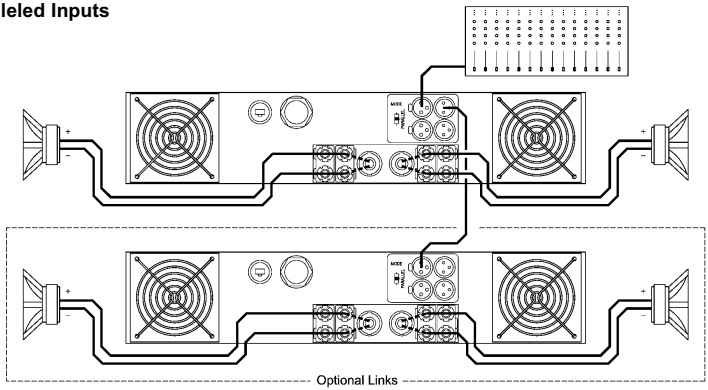
Bridge Mode

In bridge mode channels A and B are combined to form one channel. To enable bridge mode set the mode switch to bridge. Use input A and out A/B for the output. Connect to pins +1 and +2. Pin +1 is signal +. Note that the minimum impedance in bridged mode is 4 ohms. The binding posts can also be used for the output. Use CH A + and CH B +.

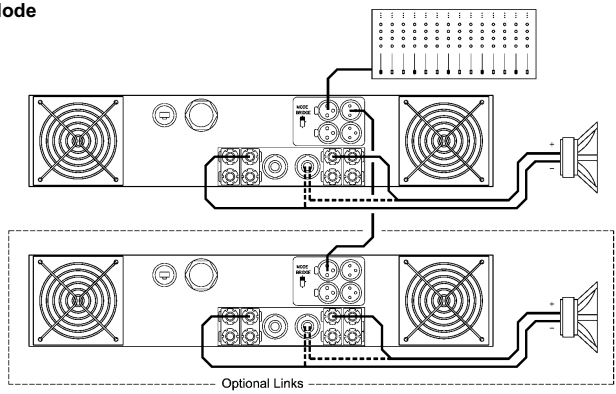
Dual Channel



Paralleled Inputs



Bridged Mode



System Connections

Power

The Power switch must always be in the "off" position before plugging in the mains supply. (220 - 240V AC)

Input

The input signal fed to the amplifier can be either balanced or unbalanced. The drawing below describes both ways to wire an XLR connector for this purpose.

Balanced Wiring
1 - Ground
2 - Signal +
3 - Signal -

Unbalanced Wiring
1 - Ground
2 - Signal
3 - Ground

Balanced Signal

Connect pin 1 to Ground, pin 2 to Signal + (hot) and pin 3 to Signal - (cold).

Unbalanced Signal

Connect pin 1 to Ground, pin 2 to signal and pin 3 to Ground.

Note

If a connection is made with an unbalanced line and pin 3 on the XLR is not connected to ground, a 6 dB loss occurs in the line and only a quarter of the amplifier power is produced.

TECHNICAL SPECIFICATIONS Kryo K8

FREQUENCY RESPONSE ref.100W@8Ω	20Hz - 20kHz +/-0.25 dB
THD ref. 4Ω, 20Hz - 20KHz	<0.05%
S/N 20Hz-20kHz, ref full output	107 dB
INTERMODULATION DISTORTION, SMPTE	<0.05%
PHASE RESPONSE @ 1 watt 20Hz - 20KHz	+/- 15 deg
CROSSTALK 20Hz - 20KHz	>75dB
VOLTAGE GAIN	26/32/38 dB
SLEW RATE	65V/us
DAMPING FACTOR 20Hz - 1KHz @ 8Ω	>800
CONNECTORS	Input: balanced XLR Output: Speakon + Binding Posts
COOLING	2 Variable speed fans
AMPLIFIER PROTECTION	Full short circuit, open circuit, thermal, ultrasonic, and RF protection, stable into reactive or mismatched loads
VOLTAGE RANGE	220 - 240V AC 50/60 Hz

			Kryo K8	
			RMS Output Power per ch	
Mode		Impedance	0.1%THD+N	12dB Crest Factor
			1kHz	Pink Noise
Both Channels Driven		2	3450	4600
		4	2300	2700
		8	1300	
Bridge Mode		4	6900	
		8	4600	
Sensitivity @ 4Ω			5.1/2.6/1.3 V	
Maximum Current Draw @ 1/8 rated power			13 A	

Dimensions :

48.3 cm (19") wide, 8.9 cm (3.5") high and 46.0 cm (18.1") deep.

Weight:

Kryo K8: 14.0 Kg (30.4 pounds) net.
15.0 Kg (32.6 pounds) shipping weight.

Service

This unit has very sophisticated circuitry and should only be serviced by a fully trained technician.

To prevent electric shock, do not remove covers
No user serviceable parts inside
Refer servicing to a qualified technician

Worldwide Service

Service may be obtained from your local authorised service centre. To obtain service, simply present your sales receipt as proof of purchase along with the defective unit to an authorised service centre. They will handle the necessary paperwork and repair. Remember to transport your unit in the original factory packaging.

1. When sending a Kryo Series product to an authorised service centre for service, please write a detailed description of the fault and list any other equipment used in conjunction with the faulty product. Send the fault description with the faulty product, do not send it separately.

2. Ensure safe transportation of your unit to the authorised service centre. Ship it in the original factory packaging if possible.

3. Do not ship the unit in any kind of rack. Ignoring this warning may result in extensive damage to the unit and the equipment rack. Accessories are not needed. Do not send the instruction manual, cables or any other hardware.

4. Before returning your faulty product for repair, please remember to get a return authorisation number from the dealer whom you purchased your product from. Failure to do so could delay the repair of your product.

Warranty Registration

Please take time to fill out the warranty registration form at the back of this manual and return it to Void Acoustics.

Environmental

WEEE Mark

If you want to dispose of this product, do not mix with general household waste. There are separate collection systems for used electronic products in accordance with legislation under the WEEE Directive (Directive 2002/96/EC) and is effective only within the European Union.

This product is Rohs compliant.

LIMITED WARRANTY

THE WARRANTY
For a period of three (3) years from the date of delivery to the original purchaser (as shown on the original invoice or sales receipt), Void Acoustics (hereinafter "Void") warrants to the ORIGINAL OWNER of each new Kryo Series product (provided it was purchased at an Authorised Void Dealer) that it is free of defects in materials and workmanship and that each product will meet or exceed all factory published specifications for each respective model. Void agrees to repair or replace (at its discretion) all defective parts at no charge for labour or materials; subject to following provisions:

WARRANTY VIOLATIONS
Void shall take no responsibility for repair or replacement as specified under this warranty, if the damaged product has been subject to misuse, accident, neglect or failure to comply with normal maintenance procedures; or if the serial number has been defaced, altered or removed. Nor will Void accept responsibility for, or resulting from, improper alterations or unauthorised parts or repairs. This warranty does not cover any damage to speakers or any other consequential damage resulting from breach of any written or implied warranty.

VOID WARRANTY PROVISIONS
Void will remedy any defect, regardless of the reason for failure (except as excluded) by repair, or replacement. Void will remedy the defect and ship the product within a reasonable time after receipt of the defective product at an Void Authorised Service Centre.

TO OBTAIN WARRANTY SERVICE
In the event that a Void product requires service, the Owner must contact Void or an Authorised Void Service Centre to receive an R.A.N. (Return Authorisation Number) and instructions on how to return the product to the Void Authorised Service Centre, or to the factory. Void (or its Authorised Service Centre) will initiate corrective repairs upon receipt of the returned product. Please save the original carton and all the packing materials in case shipping is required. All products being returned to the factory or service centre for repairs must be shipped prepaid.

If the repairs made by Void or the Void Authorised Service Centre are not satisfactory, the Owner is instructed to give written notice to Void. If the defect or malfunction remains after a reasonable amount of attempts by Void to remedy the defect or malfunction, the Owner shall then have the option to elect either a refund or replacement of said Void product free of charge. The refund shall be an amount equal to but not greater than the actual purchase price, not including any taxes, interest, insurance, closing costs and other finance charges (minus reasonable depreciation on the product). If a refund is necessary, the Owner must make the defective or malfunctioning product available to Void free and clear of all liens or other restrictions.

MODIFICATIONS OF EQUIPMENT
Void reserves the right to modify or change equipment (in whole or part) at any time prior to delivery thereof, in order to include therein electrical or mechanical improvements deemed appropriate by Void, but without incurring any liability to modify or change any equipment previously delivered, or to supply new equipment in accordance with any earlier specifications.

DISCLAIMER OF CONSEQUENTIAL AND INCIDENTAL DAMAGES
YOU, THE OWNER, ARE NOT ENTITLED TO RECOVER FROM VOID ANY INCIDENTAL DAMAGES RESULTING FROM ANY DEFECT IN THE VOID PRODUCT. THIS INCLUDES ANY DAMAGE TO ANOTHER PRODUCT OR PRODUCTS RESULTING FROM SUCH A DEFECT.

WARRANTY ALTERATIONS
No person has the authority to enlarge, amend, or modify this Warranty. This Warranty is not extended by the length of time which the Owner is deprived of the use of product. Repairs and replacement parts provided pursuant to the Warranty shall carry only the non-expired portion of the Warranty.

THIS STATEMENT OF WARRANTY SUPERSEDES ALL OTHERS CONTAINED IN THIS MANUAL

Void Acoustics Warranty

This Void Acoustics product is guaranteed against defects due to faulty materials or workmanship for a period of 12 months from the date of original purchase, subject to the following restrictions.

1. This warranty is only valid in the country of purchase.

2. That the product has not been abused or operated in conjunction with unsuitable or faulty apparatus.

3. That the product has not been modified, disassembled or tampered with by any person other than Void Acoustics technical staff.

4. That the product has not suffered damage in transit.

Do not send goods to Void Acoustics without first obtaining a return authorisation number.

Carriage costs to Void Acoustics will be returned to the customer if warranty work proves necessary. Packing, insurance and freight on the return journey will be paid by Void Acoustics or its authorised dealers.

This warranty in no way affects your statutory rights.

Void Acoustics

Unit 10B, Dawkins Road Ind Est, Poole, Dorset, BH15 4JD
Tel: +44 (0)870 1651 332 Fax: +44 (0)870 1651 352

Owner's Warranty Copy

Date of purchase

Model

Serial number

Suppliers name and address

Post code : Tel :

What to do if your Void product needs repair

Contact the dealer from whom you purchased the product and get a return authorisation number.

Return the product (preferably in its original box) to :

Void Acoustics, Unit 10B, Dawkins Road Ind Est, Poole, Dorset, BH15 4JD, UK.

Warranty Registration

Thank you for purchasing this Void product. Please complete this warranty registration card and cut off this part and send it to the address overleaf.

Date of purchase

Model

Serial number

Suppliers name and address

Post code :

Tel :

Your name and address

Post code :

Tel :

Void Acoustics

Unit 10B

Dawkins Road Ind Est

Poole

Dorset

BH15 4JD

UK